

# Jar of Stars - Advanced



**Estimate how many stars are in a jar.**

## **What you need**

- 2 plastic jars (same volume, but different shapes)
- 2 plastic jars (same shape, but different size)
- 1 large jar full of star beads
- 1 small scoop
- Tape measure
- Measuring cups

## **What to do**

1. Guess how many stars you can scoop with the scoop.
2. Scoop up some stars.
3. Count the stars that you scoop to see how close your guess was to the actual number of stars.
4. Choose one of the empty jars. Estimate how many scoops of stars would fit into your jar.
5. Count how many scoops it really takes to fill your jar.
6. Try again with a different jar.

## **What to ask**

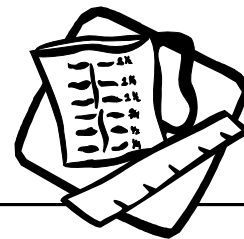
- How could a calculator help you?
- How did you figure out your estimate? Are there other ways to estimate?
- How many stars would fill half your jar?
- How many stars would fill one-fourth of your jar?
- How would you estimate how many leaves are on a tree?
- How would you estimate how many stars are in the sky?



## **Did you know?**

Estimating helps you when you are buying groceries, planning a meal, painting a room and solving math problems. Many things to be counted in the real world are impossible to precisely count. Estimation experiences such as this allow children to use many other skills such as place value, number sense and intuitive ideas about volume. “Unitizing” or dividing things into smaller units is a way to make a close estimate and is a method scientist often use.





## What's next?

- Estimate how many blades of grass are in a 1inch by 1inch square of grass. Think about how you would estimate how many blades of grass are in a yard that is 100 feet by 100 feet. Try various methods of estimating and decide which one is the best.

## To learn more

### Counting on Frank

*by Rod Clement*

A young boy spends his spare time estimating everything from the length of the line his pen will make to how many jellybeans are in a jar.

### Take a Guess: A Look at Estimation

*by Janine Scott*

Presents the concept of estimation and how important it can be to give an approximate measure, such as when adding a pinch of salt to a recipe or rounding off one's age.

### Jelly Bean Jostle

<http://pbskids.org/cyberchase/games.html>

The clerk at the candy store dropped a jar of jellybeans. Can you tell me how many jellybeans are in one square?

### What a Crowd!

<http://www.mathcats.com/microworlds/whatacrowd.html>

Try to estimate the number of people on the screen. The more accurate you are the higher score you get.

## How it helps with school

### Texas Essential Knowledge and Skills (TEKS) Standards

Number, Operation, and Quantitative Reasoning: 3.3; 4.4D; 5.3B, 5.4B

Measurement: 4.11B; 5.10A

Underlying processes and mathematical tools: 3.15D; 4.14D; 5.14D

### National Council of Teachers of Mathematics (NCTM) Standards

Measurement, Connections